

Guide to the Benefits of Massage

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Throughout the US and across the world, massage therapy is increasingly becoming an integral part of a growing number of people's holistic health regimens. More and more medical doctors are prescribing massage therapy to treat a broad range of medical conditions. **And, more and more scientific studies are finding what many massage therapists, bodyworkers, and other types of healers from cultures all over the world have known intuitively for centuries - that massage is beneficial to the health of all the systems of the body.** Below, I outline many of these scientifically established benefits - for the body and the mind, as well as for all aspects of pregnancy and childbirth, from prenatal and labor support massage to postpartum and infant massage. The information that I present here includes citations of the scientific studies or sources from which the information came and/or the physiological explanation behind the benefits described.

It is important to keep in mind that massage therapy, as a tool for our holistic well-being, cannot be understood solely through the scientific method. Western science typically measures the impact of one variable on another (for example, whenever someone does X to the subject, Y happens). In contrast, the goal of massage is not necessarily to simply "fix" something or to bring about a particular result through a specific treatment, but instead to facilitate the body's ability to enter a state of greater overall wellness and balance. Looking at the whole in this way and dealing with such subjective topics as a client's internal feeling of well-being is typically out of the realm of Western science and medicine. Although scientific studies have successfully found many benefits of massage therapy, there is still a lot regarding the benefits of massage that has yet to be (or may never be) explained or described through the lens of science. **There are numerous anecdotal accounts of profound healing, changes, and shifts that have taken place on the physical, psychological, energetic, and spiritual levels that cannot be done justice by an explanation limited to the scientific lens.** This is probably why massage therapy is a method that has often been successful in helping people who have unexplained conditions, or for people who are not sure what they are looking for but simply have a sense that something needs to shift in their body, mind, energetic system, or in their life.

Benefits for the Body

Reduces muscular pain, spasms, cramps, tension, and trigger points (aka - knots). Massage can reduce muscular pain due to many causes. Massage helps to stop the "pain-spasm-pain" cycle, in which an injury causes a muscle to go into spasm, reducing local circulation, leading to a lack of oxygen and nutrients and a build-up of metabolic wastes and toxins, which leads to more pain, which in turn, leads the muscle to spasm further. Massage increases local circulation and relaxes the tense muscle, breaking the cycle, reducing pain, and leading to increased flexibility and range of motion.

Reduces chronic pain due to injuries and a variety of conditions. Numerous scientific studies and anecdotal evidence have found massage to be effective at improving functioning and reducing pain associated with a variety of injuries and chronic conditions including: arthritis and joint pain, whiplash, slipped or herniated discs, carpal tunnel syndrome, chronic fatigue syndrome, fibromyalgia, sciatica, thoracic outlet syndrome, spinal cord injuries, plantar fasciitis, shin splints, TMJ syndrome, and others.^{[1] [2] [3] [4] [5]}

Reduces formation of scar tissue, pain, and swelling following injury or surgery. Massage increases lymph flow (thereby removing excess lymph and toxins and reducing swelling and pain), and can help to bring necessary oxygen and nutrients via increased blood circulation in order to increase the formation of functional tissue and reduce the formation of scar tissue. Massage can also help to realign the fibers of scar tissue, making the muscle more functional and increasing range of motion at the joint. A Mayo Clinic study found that people recovering from heart surgery who received massage experienced less pain during their recovery period than those who did not receive massage.^[6]

Speeds healing from pulled muscles and sprained ligaments. In order for any tissue in the body to heal, it must receive vital nutrients and oxygen through blood circulation. Following an injury, muscles often go into spasm, reducing blood flow to the area. Massage not only releases these tight muscles, but also increases local circulation, leading to faster healing time. Massage can also help the fibers in muscles and ligaments to realign appropriately in the healing process, allowing for increased function of the muscle and increased range of motion at the joint.

Increases range of motion and flexibility. Massage can increase range of motion and flexibility in a variety of ways. It can help loosen and relax tight muscles, break up adhesions that can form

on the tendons and ligaments around joints, and soften the connective tissue that surrounds everything (including muscle, tendon, ligament, and bone) in our body. A study with dancers found that regular massage improved range of motion, balance, and posture.^[7]

Improves posture. The connective tissue of the body can become chronically tight and rigid leading to poor posture. Massage can help soften this tissue, which can lead to lasting postural realignments and shifts.^[8]

Reduces stress hormones. Arguably, the number one scientifically proven benefit of massage is the reduction of stress hormones. This benefit should not be underestimated, as numerous scientific studies link the presence of stress hormones (specifically cortisol) to nearly every single disease that is prevalent in our society today, including, heart disease, high blood pressure, diabetes, cancer, autoimmune diseases, psychological problems and disorders, and so on.^{[9] [10] [11]}

Improves immune system function. Massage does a number of things for immune function. It allows our nervous system to enter its parasympathetic response (aka - relaxation response), which allows our body to send energy and resources towards restoration and healing. Studies have shown that massage increases the production of immune cells such as natural killer cells and other immune cells in HIV and cancer patients.^{[12] [13] [14] [15]} In addition, massage improves lymphatic flow, allowing the immune system to work more efficiently.

Relieves tension headaches and migraine pain. Many headaches can be caused by muscle tension. Muscles that develop trigger points (aka - knots) can refer (send) pain to other parts of the body, including the head. Massage (particularly Neuromuscular Therapy) can help to relieve these trigger points, reducing headache pain and frequency of headaches. A study found that massage therapy decreased the occurrence of headaches, sleep disturbances, and distress symptoms in adults with migraines.^[16]

Improves digestion. Massage can help the digestive system in a number of ways. First, massage brings our nervous system into its parasympathetic response (aka - the "rest and digest" response) which allows our body to relax enough to send energy and resources toward our digestive system. Massage also helps to stimulate peristalsis (movement of the intestines) which can relieve constipation. Further, massage can help to stimulate the release of digestive enzymes, which can improve our nutrient absorption. Studies with preterm infants have found that infants who receive massage gain up to 47% more weight than those who do not. It is

believed that this is due to the improved absorption of food and nutrients due to massage.^[17]

Reduces fatigue. The build-up of metabolic waste and toxins in our body can lead to fatigue. Massage helps to flush the body of these waste products through stimulation of the cardiovascular and lymphatic systems, thereby reducing fatigue and improving our cellular functioning.

Increases blood and lymph circulation. Blood flow can become stagnant or slow (especially in the extremities for people who are on their feet all day), potentially leading to the development of varicose veins (and thereby increasing the risk for the development of blood clots). Massage increases blood and lymph circulation, bringing stagnant blood back to the heart and allowing fresh oxygen and nutrients to be delivered to the tissues. It also increases the lymph circulation, allowing this system to efficiently remove metabolic wastes and toxins from the tissue. Additionally, massage can increase local circulation to problem areas, allowing for faster healing time, reduced tension, increased functionality of the tissue and increased range of motion at the joint.

Lowers blood pressure. Studies have found that massage can help to lower blood pressure.^[18] This is an important aspect of heart health and can help to reduce the risk of heart disease.

Promotes deeper and easier breathing. Loosening muscles of respiration can allow us to bring breath, our vital energy, into our body at a much greater capacity. This can also help teach us how to breathe in a way that brings our body into a state of relaxation more often. A study at the Touch Research Institute found that children with asthma and cystic fibrosis showed improved lung functioning with massage.^{[19][20]}

Decreases premenstrual symptoms. A study at the Touch Research Institute found that women experiencing premenstrual symptoms had improved mood, and reduced pain, anxiety, and water retention after receiving massage therapy.^[21]

Reduces nerve pain (e.g., sciatica, thoracic outlet syndrome, carpal tunnel syndrome, herniated discs, etc). Massage can relax the muscles that clamp down on specific nerves causing pain and numbness. Massage can also reduce nerve pain caused by slipped or herniated discs, by loosening the tissue around the problem area, allowing the disc to move closer to its original position, taking pressure off of the nerve. A study at the Touch Research Institute found that adults with Carpal Tunnel Syndrome showed increased nerve conducting velocity with massage therapy.^[22]

Benefits for a variety of medical conditions. These include: diabetes, cancer, HIV, Parkinson's disease, Multiple Sclerosis, Cerebral Palsy, Cystic Fibrosis, autoimmune disorders, gastrointestinal disorder such as Irritable Bowel Syndrome, and Colitis, high blood pressure, circulatory disorders, anemia, and many others. Studies have found that nearly all medical conditions are agitated by stress hormones - in other words, stress hormones present in the body can cause flare-ups and increased intensity of these conditions.^{[23][24][25]} Massage can reduce the level of stress hormones in the body, thereby easing the intensity of these conditions.^{[26][27][28]} Additionally, there have been studies showing specific benefits for many of these disorders such as bringing blood glucose levels back to normal for people with diabetes, increasing white blood cell count in those with cancer and HIV, and improved air flow for children with cystic fibrosis.^{[29][30][31][32]}

Benefits for the Mind

Reduces anxiety. Study after study has shown that massage helps to reduce stress and anxiety. Studies consistently find that after receiving massage clients both report less stress and anxiety and show lower cortisol (stress hormone) levels. Lower levels of stress hormones may be one of the most beneficial factors in overall health and well-being. Numerous scientific studies have linked stress hormones to nearly every chronic and degenerative disease and disorder that is prevalent today, including heart disease, high blood pressure, diabetes, cancer, autoimmune diseases, psychological problems and disorders, and so on.^{[33][34]}
^{[35][36]}

Improves sleep habits. Many people report that after receiving a massage they are able to get a better night's sleep. Regular massage can help teach us how to bring our bodies into a state of deep relaxation, which can help us fall asleep and sleep more soundly. Studies at the Touch Research Institute found that children and infants who received massage had less difficulty falling asleep and improved sleep patterns.^{[37][38]}

Enhances alertness and psychological functioning. After receiving massage many people note that they feel more "clear-headed". It seems that the type of deep relaxation and calm that massage creates brings about clearer thinking and a state of calm alertness. Studies have shown that mental alertness is increased and performance on math problems is improved after receiving massage.^{[39][40]}

Enhances cognition and learning in infants and children. Studies have shown that cognition, learning, and alertness are enhanced in infants and preschool children who receive massage. ^{[41][42]}

Improves symptoms for a variety of psychological disorders. Numerous scientific studies have shown improvement in a variety of psychological disorders, including: ADHD, Autism, Anorexia, Bulimia, Depression, Post-Traumatic Stress Disorder, Chronic Fatigue Syndrome, and others. These studies found that massage therapy improved sleep patterns, reduced stress hormones, depressive symptoms, fatigue related symptoms, and anxiety levels, and lead to less "problem behavior" in children. ^{[43] [44] [45] [46] [47] [48] [49] [50] [51] [52] [53]}

Helps victims of sexual and physical abuse readjust to touch. A study at the Touch Research Institute found that for women who were sexually or physically abused, massage therapy reduced aversion to touch and decreased anxiety and depression. ^[54]

Benefits of Prenatal, Labor, Postpartum, & Infant Massage

Decreases rates of complications during labor. Studies have found that women who receive massage while pregnant are less likely to have complications during labor. ^[55]

Decreases rates of postnatal complications for the baby. In addition to the benefit of a less complicated labor, studies have found that women who receive massage while they are pregnant have babies who are less likely to experience postnatal complications and perform better on infant assessment tests. ^{[56] [57]}

Decreases rates of premature birth. Studies also show that women who receive prenatal massage are less likely to give birth prematurely. ^{[58] [59]}

Decreases stress hormone levels in mother. Since expectant mothers are already experiencing a great change in hormone levels, reducing unnecessary stress hormones can help bring the hormonal system into better balance, benefiting the mother as well as the baby. Reduction of maternal stress due to massage may help lead to decreased rates of complications such as low birth weight and premature birth. ^{[60] [61]}

Increases oxygen and nutrients to the cells of the mother and the baby. During pregnancy, the mother can have up to 40% more blood volume in her body. Massage can help to ease some of this burden on the circulatory system by increasing local and systemic

circulation which helps to bring fresh oxygen and nutrients to all of the cells and tissues of the mother and the fetus, allowing for optimal growth and development of the fetus.

Promotes easier breathing. During the later months of pregnancy, the size of the baby can reduce the diaphragm's ability to contract fully to allow for a deep breath. Massage can help to loosen the muscles of respiration and the surrounding tissue to allow for deeper and easier breathing. Many pregnant clients notice that they can finally take a nice deep breath after receiving a massage.

Reduces swelling (edema) in the hands and feet. Swelling in the hands and feet during pregnancy is another result of the additional blood volume (up to 40% more than normal) that a pregnant woman's circulatory system must handle. When the blood and lymphatic vessels are not able to move all of the extra fluid efficiently, it leads to a build-up of fluid in the extremities (hands and feet). Massage helps to increase the efficiency of these systems and can actually help to drain excess fluid out of the hands and feet and back to the heart.

Decreases pain in low back, shoulders, neck, and hips due to shift in posture. In order to accommodate the weight of the baby, the center of gravity of the pregnant woman must shift. This leads to a number of postural changes that can put stress on many areas of the body leading to tension, stiffness and pain. Massage can help to reduce tension and pain in these areas and help increase body awareness of the new posture.

Alleviates stress on weight-bearing joints (such as the knees) due to additional weight of the baby. Weight-bearing joints such as the ankles, knees, and hips have additional weight to support that they are not used to dealing with. Massage can help to alleviate the pain and soreness associated with this by increasing local circulation to the joints and decreasing muscle tension surrounding the joints.

Alleviates leg cramps. Massage can help to flush the body's metabolic wastes that can build-up in the lower legs, reducing the incidence of leg cramps.

Alleviates sciatic pain. The postural shift caused by pregnancy can lead to tension in a particular muscle (Piriformis) that is located on top of the sciatic nerve. When this muscle clamps down on the sciatic nerve it can lead to numbness, tingling, and pain down the back of the leg (this is known as Piriformis Syndrome). Massage can help to release this muscle in order to take pressure off the sciatic nerve and reduce pain.

Decreases insomnia. Massage reduces stress hormones in the body which can decrease insomnia, a common complaint of pregnancy.

Helps prepare the muscles used during childbirth. Childbirth requires both flexibility and body awareness, two things that massage can help to provide. Giving birth requires the ability to contract and use muscles (such as abdominal muscles for pushing) while simultaneously relaxing other muscles (pelvic floor muscles) in order to avoid tearing tissue. The body awareness and education (on perineal self-massage) that comes with massage therapy can help lead to a smoother and less painful birth.

Shorter labor. There are various massage techniques, and acupressure and reflexology points that can speed up a sluggish labor and help support uterine contractions during pushing to make for a quicker labor. Studies have found that women who receive massage during labor have shorter labors.^[62]

Less painful labor. It has been reported by many women (and a study conducted at the Touch Research Institute corroborates) that receiving massage during labor decreases the pain associated with contractions and childbirth.^[63] Additionally, massage can help to reduce specific pain (in the back, pelvis, legs, shoulders, neck, etc) that can accompany labor.

Less likely to need pain medication. Massage is so effective at reducing pain associated with labor that a controlled study has found that women who received massage during labor were actually less likely to need pain medication - allowing for a more natural childbirth.^[64]

Fewer complications during labor. While there have been very few studies on the effects of labor support massage, there are many studies that find that having another woman present for support (such as a doula) decreases rates of complications and the need for medical intervention (such as cesarean, forceps delivery, Pitocin use, etc).^[65] Additionally, studies have found that receiving massage while pregnant decreases rates of complications during labor.^[66]

Less anxiety during labor. A study at the Touch Research Institute found that women who received massage during labor experienced less anxiety during labor.^[67]

Shorter hospital stay following birth. The same controlled study also found that following the birth, the women who received massage during labor had shorter hospital stays than those who did not receive massage.^[68]

Better mood following birth. This study also found that women who received massage during labor had a less depressed mood following the birth.^[69]

Better milk production and easier breastfeeding. Stress hormones have a negative impact on breast milk production.^[70] Numerous studies (cited above) have found that massage is effective in reducing the level of stress hormones present in the body, which can lead to better milk production and, in turn, easier breastfeeding.

Helps to realign the pelvis after birth. Massage can help to relax muscles around the pelvic area that can become tense following birth. This can help to allow the pelvis to shift back to its original alignment.

Relieves soreness after birth. Massage can help to flush the body's metabolic wastes (which can cause muscle soreness) and relax and soothe muscles that have been overworked or strained during childbirth.

Faster recovery from a cesarean. Massage increases systemic and local circulation, which is an important factor in recovery from surgery. This increase in circulation helps to flush toxins that have built up at the surgery site and bring in fresh oxygen and nutrients so that the tissue can heal faster. Studies have also found massage to be effective at reducing pain associated with recovery from surgery.^[71]

Relieves stiffness, tension, aches, and pains associated with caring for a newborn. Caring for a newborn puts many new demands on the body. Just holding a baby for extended amounts of time can put immense strain on the arms, shoulders, neck and back. Massage can help to reduce this stiffness and pain by relaxing tense muscles, softening connective tissue, working out trigger points (aka - knots), and bringing much needed blood flow into stagnant areas.

Facilitates weight gain in preterm and normal infants. Numerous studies have found that preterm infants gained up to 47% more weight when they received massage. It is believed that the massage leads to an increase in vagal tone, and in turn increasing food absorption.^{[72] [73] [74]}

Improves sleep-wake patterns in preterm and normal infants. Studies find that preterm and normal infants who receive massage fall asleep faster, sleep more soundly, and have better sleep patterns than infants who do not receive massage.^{[75] [76] [77]}

Decreases fussiness and improves "soothability". A study at the Touch Research Institute found that infants who were massaged (versus those who were rocked) experienced less fussiness and were easier to soothe.^[78]

Improves sociability and interaction behaviors. A Touch Research Institute study also found that infants who received massage (versus those who were rocked) showed better interaction and social behavior.^[79]

Lowers stress hormones and increases "happy" hormone levels. One study found that infants who received massage had lower levels of cortisol and norepinephrine (stress hormones) and increased serotonin ("happy" hormone) levels.^[80]

Preterm infants released more quickly from the hospital. A study at the Touch Research Institute found that preterm infants who received massage became more socially responsive and were released an average of 6 days more quickly from the hospital (with average hospital cost savings of \$10,000 per infant!)^[81]

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